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EXAMINER	
CHU, WUTCHUNG	
ART UNIT	PAPER NUMBER
2468	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/597,351	BACKLUND ET AL.	
	Examiner	Art Unit	
	WUTCHUNG CHU	2468	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 December 2011*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *81-116 and 128-156* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *81-116 and 128-156* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

12)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Objections

2. Claims 88 is objected to because of the following informalities: the acronym "PS" needs to be specified. Appropriate correction is required.

Claim Rejections - 35 USC § 112 Sixth Paragraph

Applicant recites limitations "*means for / Step for* " A claim limitation will be presumed to invoke 35 U.S.C. 112, sixth paragraph, if it meets

the following 3-prong analysis:

(A) the claim limitations must use the phrase "means for " or "step for; "

(B) the "means for " or "step for " must be modified by functional language; and

(C) the phrase "means for " or "step for " must not be modified by sufficient structure, material, or acts for achieving the specified function.

The following citations are the corresponding structure to the "means for" in claims 128-129 and 151: Processing means (figure 3 Source SGSN, figure 4 and Specification page 22 lines 28-32); Receiving means (figure 4 Rbs and Specification page 22 lines 32 to page 23 line 5); transmit means (figure 4 Tbs and Specification page 23 lines 14-17);

buffer means (figure 4 Bbs and Specification page 23 lines 21). Therefore, the specification sufficiently discloses structure for achieving the specified function.

Claim Rejections - 35 USC § 103

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 81-83, 89-95, 97-100, 103-108, 110-115, 128-135, 137-144, 146-151, and 156 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yi et al. (US Pat. No. 7,356,146 B2), hereinafter as Yi in view of Ahmavaara et al. (US Pub No. 2003/0169725 A1), hereinafter as Ahmavaara.

Regarding claim 81, Yi discloses a method of changing base stations from a source base station to a target base station, wherein the source base station is in communication with a source core network support node, and the target base station is in communication with a target core network support node **(Yi: from col. 13 lines 20 to col. 16 line 4)**, the method comprising the steps of: the source base station transferring packet switched communications between a mobile station and the source core network support node **(Yi: figure 5 and col. 6 line 29-44 where node b/RNC1 transferring packet switched communications between a UE and a SGSN1)**; the source core network support node maintaining sequence number information for packets communicated to and from the mobile station; and wherein the base station change is of a lossless type allowing lossless base station change of packet switched communications in unacknowledged mode **(Yi: col. 4 lines 14 unacknowledged mode (UM), col. 4 lines 22-29 UM mode and col. 5 lines 46-51)** between the mobile station and the core network support nodes **(Yi: figures 1, 5, and 6, and col. 6 line 29-44 where UE switching/relocating from one SGSN to another SGSN which are both of a core network, and col. 18 lines 4-6 where UM is supported for relocation)**. It is noted that Yi discloses all the subject matter of the claimed invention with the exception of: the source core network support node forwarding the maintained sequence number

information to the target core network support node during the base station change. Ahmavaara from the same or similar fields of endeavor teaches the use of: The old 3G-SGSN responds with an 'SGSN Context Response' message 12, which may include the GTP sequence number for the next uplink GTP PDU to be tunneled to the GGSN and the next downlink GTP sequence number for the next in-sequence N-PDU to be sent to the MS **(Ahmavaara: paragraphs [0048-0049] and figure 3 ref 11-12)**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the forwarding the sequence number from old 3G-SGSN to new 2G-SGSN as taught by Ahmavaara in the method of Yi. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 82, Yi and Ahmavaara teach a protocol entity maintains N-PDU send and receive sequence numbers and GTP T-PDU uplink and downlink sequence numbers for each packet flow **(Ahmavaara: paragraphs [0042-0049])** subject to base station change of lossless type **(Yi: col. 1 lines 45-60 and col. 17 lines 11-51 and col. 27 line to col. 28 line 4 on SRB#1 (UM/DCCH), which configures the UE with the new U-RNTI and indicated the uplink receive PDCP sequence number for each radio bearer configured to support lossless SRNS relocation).** One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 83, Yi and Ahmavaara teach downlink N-PDU and downlink GTP T-PDU sequence numbers are provided along with each N-PDU forwarded from the source support node to the target support node **(Ahmavaara: paragraphs [0049])**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 88, Yi and Ahmavaara teach a set of N-PDUs sent down to the source BSS are buffered in the support node **(Ahmavaara: paragraphs [0035-0036] and [0042]) data may be temporarily stored or buffered in an appropriate node of the system)** for each packet flow subject to lossless PS handover **(Yi: col. 1 lines 45-60 and col. 17 lines 11-51 and col. 27 line to col. 28 line 4 on SRB#1 (UM/DCCH), which configures the UE with the new U-RNTI and indicated the uplink receive PDCP sequence number for each radio bearer configured to support lossless SRNS relocation).** One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 89, Yi and Ahmavaara teach a PS handover command message contains a Radio Link Control Acknowledgement/Negative acknowledgement (RLC ACK/NACK) report allowing a mobile station to determine which one or more N-PDUs have been completely received by the network **(Yi: col. 4 lines 36-50)**.

Regarding claim 90, Yi and Ahmavaara teach a mobile station starts uplink transmission, upon handover to a target cell, by an estimated next uplink N-PDU that

was not acknowledged by lower layers in a source cell from which the mobile station was handed over to the target cell **(Yi: col. 1 lines 45-60 and col. 17 lines 11-51 and col. 27 line to col. 28 line 4 on SRB#1 (UM/DCCH), which configures the UE with the new U-RNTI and indicated the uplink receive PDCP sequence number for each radio bearer configured to support lossless SRNS relocation)**.

Regarding claim 91, Yi and Ahmavaara teach a PS handover command sent from the support node to a source BSS includes an expected Receive N- PDU sequence number **(Ahmavaara: paragraphs [0048-0049] and figure 3 ref 11 and 12)** at which a mobile station should start transmission in a target cell for each uplink packet flow subject to lossless handover **(Yi: col. 1 lines 45-60 and col. 17 lines 11-51 and col. 27 line to col. 28 line 4 on SRB#1 (UM/DCCH), which configures the UE with the new U-RNTI and indicated the uplink receive PDCP sequence number for each radio bearer configured to support lossless SRNS relocation).** One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 92, Yi and Ahmavaara teach a mobile station buffers one or more uplink N-PDUs **(Ahmavaara: paragraphs [0035-0036] and [0042]) data may be temporarily stored or buffered in an appropriate node of the system)** which have been confirmed according to RLC **(Ahmavaara: paragraphs [0057])**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 93, Yi and Ahmavaara teach uplink and downlink T-PDU header G-PDU sequence numbers associated with uplink and downlink N-PDUs are recorded **(Ahmavaara: paragraphs [0048-0049] and figure 3 ref 11 and 12)** while in unacknowledged mode between the mobile station and the support node **(Yi: col. 14 lines 35-45)**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 94, Yi and Ahmavaara teach the base station change allows an entire data transfer session in unacknowledged mode **(Yi: col. 1 lines 45-60 and col. 17 lines 11-51 and col. 27 line to col. 28 line 11 on SRB#1 (UM/DCCH, which configures the UE with the new U-RNTI and indicated the uplink receive PDCP sequence number for each radio bearer configured to support lossless SRNS relocation)**.

Regarding claim 95, Yi and Ahmavaara teach the data transfer session is a session of data file transfer **(Yi: col. 14 line 62 and col. 29 line 4)**.

Regarding claim 97, Yi and Ahmavaara teach further comprising the step of recording one or more sequence numbers of one or more protocol data units in both uplink and downlink directions **(Ahmavaara: paragraphs [0042-0049])**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 98, Yi and Ahmavaara teach the protocol data units are Network layer Protocol Data Units (N-PDUs) **(Ahmavaara: paragraphs [0042-0049])**.

One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 99, Yi and Ahmavaara teach the protocol data units are T-PDUs with GTP headers (G-PDUs) **(Ahmavaara: paragraphs [0042-0049])**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 100, Yi and Ahmavaara teach Subnetwork Dependent Convergence Protocol (SNDCP) sequence **(Ahmavaara: paragraphs [0044])** continuity is maintained across a support node involved in packet switched base station change **(Yi: figures 1, 5, and 6, and col. 6 line 29-44 where UE switching/relocating from one SGSN to another SGSN which are both of a core network, and col. 18 lines 4-6 where UM is supported for relocation)**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 103, Yi and Ahmavaara teach the source core network support node connected to the source base station or base station subsystem to be changed informs the mobile station, also connected to the base station or base station subsystem, of a next expected uplink protocol data unit to be received **(Ahmavaara: paragraphs [0042-0049] and figure 3 ref 11 and 12)**.

Regarding claim 104, Yi and Ahmavaara teach the mobile station connected to the source base station or base station subsystem to be changed informs the source core network support node **(Yi: figures 5 and col. 6 lines 29-44)**, also connected to the base station or base station subsystem, of a next expected down-link protocol data unit to be received **(Yi: col. 17 line 11-51)**.

Regarding claim 105, Yi and Ahmavaara teach the base station or base station subsystem relays the information between mobile station and the source core network support node **(Yi: figures 5 and col. 6 lines 29-44)** with no required processing of the information **(Yi: col. 17 line 11-51)**.

Regarding claim 106, Yi and Ahmavaara teach wherein the source base station or base station subsystem is allowed to continue receiving uplink data while emptying downlink buffers as a response to a PS Handover Command **(Yi: col. 5 lines 30-35)**.

Regarding claim 107, Yi and Ahmavaara teach the protocol data units are compliant with Sub-Network Dependent Convergence Protocol **(Ahmavaara: paragraphs [0044])**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 108, Yi and Ahmavaara teach SNDCP entities **(Ahmavaara: paragraphs [0044])** in a source support node buffers one or more downlink N-PDUs **(Ahmavaara: paragraphs [0035-0036] and [0042]) data may be temporarily stored or buffered in an appropriate node of the system)**. One of ordinary skill in the art

would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 110, Yi and Ahmavaara teach the buffered N-PDUs are forwarded to a target support node during the base station change **(Ahmavaara: paragraphs [0052] the buffered N-PDUs and start tunneling them to the new 2G-SGSN and figure 3 ref 15)**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 111, Yi and Ahmavaara teach the received forwarded N-PDUs in target support node are forwarded to the mobile station **(Ahmavaara: paragraphs [0052] the buffered N-PDUs and start tunneling them to the new 2G-SGSN and figure 3 ref 15)**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 112, Yi and Ahmavaara teach the one or more N-PDUs are forwarded to the mobile station **(Ahmavaara: paragraphs [0052] the buffered N-PDUs and start tunneling them to the new 2G-SGSN and figure 3 ref 15)** when the support node has received a PS Handover Complete message **(Ahmavaara: paragraphs [0035] and [0042])**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 113, Yi and Ahmavaara teach one or more downlink N-PDUs are buffered in SNDCP entities in a target support node **(Ahmavaara: paragraphs [0052])**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 114, Yi and Ahmavaara teach the target support node buffers a number of uplink N-PDUs corresponding to the number of N-PDUs received from the source support node **(Ahmavaara: paragraphs [0036])**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 115, Yi and Ahmavaara teach one or more uplink N-PDUs are buffered in SNDCP entities in a mobile station **(Ahmavaara: paragraphs [0052])**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 128, Yi discloses a core network support node in a packet switched communications system including base stations for communications involving at least one mobile station **(Yi: from col. 13 lines 20 to col. 16 line 4)**, the core network support node **(Yi: from col. 13 lines 20 to col. 16 line 4)** comprising: processing means operating according to one or more protocols for receiving protocol data units **(Yi: col. 8 lines 21-24)**, the processing means in association with packet switched base station change **(Yi: col. 17 lines 11-62)** in unacknowledged mode of the

at least one mobile station **(Yi: col. 1 lines 45-60 and col. 17 lines 11-51, col. 4 line 14 unacknowledged mode (UM), and col. 27 line to col. 28 line 4 on SRB#1 (UM/DCCH?, which configures the UE with the new U-RNTI and indicated the uplink receive PDCP sequence number for each radio bearer configured to support lossless SRNS relocation)**. It is noted that Yi discloses all the subject matter of the claimed invention with the exception of: extracting information for the core network support node to inform a mobile station of next expected uplink protocol data unit. However, Ahmavaara from the same or similar fields of endeavor teaches the use of: The old 3G-SGSN responds with an 'SGSN Context Response' message 12, which may include the GTP sequence number for the next uplink GTP PDU to be tunneled to the GGSN and the next downlink GTP sequence number for the next in-sequence N-PDU to be sent to the MS **(Ahmavaara: paragraphs [0048-0049] and figure 3 ref 11-12)**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the forwarding the sequence number from old 3G-SGSN to new 2G-SGSN as taught by Ahmavaara in the method of Yi. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 129, Yi discloses a core network support node in a packet switched communications system including base stations for communications involving at least one mobile station **(Yi: from col. 13 lines 20 to col. 16 line 4)**, the core network support node **(Yi: figures 1, 5, and 6, and col. 6 line 29-44 where UE**

switching/relocating from one SGSN to another SGSN which are both of a core network, and col. 18 lines 4-6 where UM is supported for relocation) comprising: processing means operating according to one or more protocols for transferring protocol data units **(Yi: col. 8 lines 21-24)**; and, a receiver for in association with packet switched handover to allow lossless base station change **(Yi: col. 17 lines 11-62)** in unacknowledged mode of packet switched communications **(Yi: col. 1 lines 45-60 and col. 17 lines 11-51, col. 4 line 14 unacknowledged mode (UM), and col. 27 line to col. 28 line 4 on SRB#1 (UM/DCCH?, which configures the UE with the new U-RNTI and indicated the uplink receive PDCP sequence number for each radio bearer configured to support lossless SRNS relocation)**. It is noted that Yi discloses all the subject matter of the claimed invention with the exception of: receiving information from the at least one mobile station on a next expected downlink protocol data unit. However, Ahmavaara from the same or similar fields of endeavor teaches the use of: The old 3G-SGSN responds with an 'SGSN Context Response' message 12, which may include the GTP sequence number for the next uplink GTP PDU to be tunneled to the GGSN and the next downlink GTP sequence number for the next in-sequence N-PDU to be sent to the MS **(Ahmavaara: paragraphs [0048-0049] and figure 3 ref 11-12)**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the forwarding the sequence number from old 3G-SGSN to new 2G-SGSN as taught by Ahmavaara in the method of Yi. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient

use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 130, Yi and Ahmavaara teach further comprising a protocol entity for maintaining N-PDU send and receive sequence numbers and GTP T- PDU uplink and downlink sequence numbers **(Ahmavaara: paragraphs [0042-0049])**for each packet flow subject to base station change of lossless type **(Yi: col. 1 lines 45-60 and col. 17 lines 11-51 and col. 27 line to col. 28 line 4 on SRB#1 (UM/DCCH), which configures the UE with the new U-RNTI and indicated the uplink receive PDCP sequence number for each radio bearer configured to support lossless SRNS relocation)**, the support node acting as source support node during the base station change for forwarding maintained sequence number information to a target support node of the base station change **(Ahmavaara: paragraphs [0042-0049])**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 131, Yi and Ahmavaara teach further comprising processing means for providing downlink N-PDU and downlink GTP T-PDU sequence numbers along with each N-PDU forwarded to the target support node **(Ahmavaara: paragraphs [0042-0049])**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 132, Yi and Ahmavaara teach further comprising a buffer for buffering a set of N-PDUs **(Ahmavaara: paragraphs [0035-0036] and [0042]) data may be temporarily stored or buffered in an appropriate node of the system)** sent down to the source BSS for each packet flow subject to lossless PS handover **(Yi: col. 1 lines 45-60 and col. 17 lines 11-51 and col. 27 line to col. 28 line 4 on SRB#1 (UM/DCCH), which configures the UE with the new U-RNTI and indicated the uplink receive PDCP sequence number for each radio bearer configured to support lossless SRNS relocation)**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 133, Yi teaches further comprising processing means for including a Radio Link Control Acknowledgment/Negative Acknowledgment (RLC ACK/NACK) report in a PS handover command message, thereby allowing a mobile station to determine which one or more N-PDUs have been completely received by the network **(Yi: col. 17 lines 11-62)**.

Regarding claim 134, Yi and Ahmavaara teach a PS handover command sent from the support node to a source BSS **(Yi: figure 6 ref 4 relocation request and col. 7 lines 40-45)** includes an expected Receive N-PDU sequence number **(Ahmavaara: paragraphs [0048-0049] and figure 3 ref 11-12)** at which a mobile station should start transmission in a target cell for each uplink packet flow subject to lossless handover **(Yi: col. 1 lines 45-60 and col. 17 lines 11-51 and col. 27 line to col. 28 line 4 on SRB#1 (UM/DCCH), which configures the UE with the new U-RNTI and indicated the**

uplink receive PDCP sequence number for each radio bearer configured to support lossless SRNS relocation). One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 135, Yi and Ahmavaara teach further comprising recording means for recording uplink and downlink G-PDU sequence numbers associated with uplink and downlink N-PDUs **(Ahmavaara: paragraphs [0042-0049] and figure 3 ref 11-12)** while in unacknowledged mode between the mobile station and the support node **(Yi: col. 1 lines 45-60 and col. 17 lines 11-51, col. 4 line 14 unacknowledged mode (UM), and col. 27 line to col. 28 line 4 on SRB#1 (UM/DCCH?, which configures the UE with the new U-RNTI and indicated the uplink receive PDCP sequence number for each radio bearer configured to support lossless SRNS relocation)**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 137, Yi and Ahmavaara teach a protocol entity of the support node maintains sequence continuity over the support node **(Ahmavaara: paragraphs [0042-0049] and figure 3 ref 11-12)**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 138, Yi and Ahmavaara teach the protocol entity operates according to SNDCP **(Ahmavaara: paragraphs [0044])**. One of ordinary skill in the art

would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 139, Yi and Ahmavaara teach upon completion of a packet switched base station change **(Ahmavaara: paragraphs [0035] and [0042])**, the support node sustaining a changed to base station starts transmissions of protocol data units to the at least one mobile station at the next protocol data unit expected by the at least one mobile station **(Ahmavaara: paragraphs [0044] and [0057])**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 140, Yi and Ahmavaara teach further comprising receive means, the transmissions being started upon the receive means receiving a PS Handover Complete message **(Ahmavaara: paragraphs [0035] and [0042])**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 141, Yi and Ahmavaara teach the protocol data units are compliant with Sub-Network Dependent Convergence Protocol. **(Ahmavaara: paragraphs [0042-49])**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 142, Yi and Ahmavaara teach the processing means records, according to the Sub-Network Dependent Convergence Protocol, N- PDU sequence

numbers of N-PDUs received or transferred **(Ahmavaara: paragraphs [0042-49])**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 143, Yi and Ahmavaara teach the processing means records, according to the Sub-Network Dependent Convergence Protocol, G-PDU sequence numbers of G-PDUs received or transferred **(Ahmavaara: paragraphs [0042-49])**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 144, Yi and Ahmavaara teach further comprising buffer means for buffering downlink N-PDUs **(Ahmavaara: paragraphs [0035-0036] and [0042]) data may be temporarily stored or buffered in an appropriate node of the system).** One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 146, Yi and Ahmavaara teach the information on next expected protocol data unit is transferred in a message initiating or completing a change of base station or handover **(Ahmavaara: paragraphs [0035] and [0042])** as regards the at least one mobile station. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 147, Yi and Ahmavaara teach the message initiating or completing a change of base station or handover is a PS Handover Command or PS Handover Complete message **(Ahmavaara: paragraphs [0035] and [0042])**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 148, Yi and Ahmavaara teach the buffered protocol data units are transferred upon packet switched base station change to a support node sustaining packet switched communications over the base station to which the at least one mobile station changed **(Ahmavaara: paragraphs [0035-0036] and [0042]))**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 149, Yi and Ahmavaara teach the buffered protocol data units are transferred upon completion of a preparation phase of the packet switched base station change**(Ahmavaara: paragraphs [0035-0036] and [0042]))**. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 150, Yi and Ahmavaara teach the support node **(Yi: figures 1, 5, and 6, and col. 6 line 29-44 where UE switching/relocating from one SGSN to another SGSN which are both of a core network, and col. 18 lines 4-6 where UM is supported for relocation)** is a Serving GPRS Support Node **(Yi: col. 6 line 38-40)**.

Regarding claim 151, Yi discloses a source base station entity in a packet switched communications system having at least one core network support node **(Yi: figures 1, 5, and 6, and col. 6 line 29-44 where UE switching/relocating from one SGSN to another SGSN which are both of a core network, and col. 18 lines 4-6 where UM is supported for relocation)** involving at least one mobile station, the base station entity **(Yi: col. 13 lines 20 to col. 16 line 4)** comprising: receive means, transmit means and buffer means **(Yi: figure 1 and col. 17 lines 33-66)**, wherein the buffer means buffers downlink protocol data units, the buffer means being emptied of protocol data units destined for the at least one mobile station **(Yi: col. 5 line 30-35 and lines 46-51)**, the protocol data units being transmitted by the transmit means upon the receive means receiving a command of packet switched base station change **(Yi: col. 27 lines 43-col. 28 line 11 the PDCP send and receive sequence numbers are then transferred in the RNSAP Relocation Commit message from the source to the target RNC for RABs that support lossless SRNS relocation. The target RNC becomes the serving RNC when the RANAP Relocation Detect message sent)** in unacknowledged mode **(Yi: col. 4 lines 14 unacknowledged mode (UM), col. 4 lines 22-29 UM mode and col. 5 lines 46-51)**, as regards the one mobile station, from the at least one core network support node **(Yi: figures 1, 5, and 6, and col. 6 line 29-44 where UE switching/relocating from one SGSN to another SGSN which are both of a core network, and col. 18 lines 4-6 where UM is supported for relocation)**. It is noted that Yi does not explicitly discloses: a source base station entity in a packet switched communications system having at least one core network support node for

communications. However, Ahmavaara from the same or similar fields of endeavor teaches the use of: The old 3G-SGSN responds with an 'SGSN Context Response' message 12, which may include the GTP sequence number for the next uplink GTP PDU to be tunneled to the GGSN and the next downlink GTP sequence number for the next in-sequence N-PDU to be sent to the MS **(Ahmavaara: paragraphs [0048-0049] and figure 3 ref 11-12)**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the forwarding the sequence number from old 3G-SGSN to new 2G-SGSN as taught by Ahmavaara in the method of Yi. One of ordinary skill in the art would be motivated to do so for providing a scheme for efficient use of the resources of a communication system **(Ahmavaara: paragraphs [0011-0015])**.

Regarding claim 156, Yi and Ahmavaara teach the receive means receives uplink packet data from the at least one mobile station while the buffer means is emptied of protocol data units destined for the at least one mobile station **(Yi: col. 5 lines 30-35)**.

7. Claims 84-87, 89-90, 96, 136 and 152-155 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yi et al. (US Pat. No. 7,356,146 B2), hereinafter as Yi in view of Ahmavaara et al. (US Pub No. 2003/0169725 A1), hereinafter as Ahmavaara as applied to claims 81, 129, and 151 above, and further in view of Heden (US Pub. No. 2006/0165027 A1.

Regarding claim 84, Yi and Ahmavaara teach buffered in the source base station **(Ahmavaara: paragraphs [0035 and 0042])**, which data has not been sent to, or acknowledged by, the mobile station at the point in time when the source base station sends the packet switched handover command message to the mobile station, is deleted **(Yi: col. 4 lines 36-50 and col. 5 lines 30-35)**. It is noted that Yi and Ahmavaara disclose all the subject matter of the claimed invention with the exception of: Logical Link Control (LLC) data. Heden from the same or similar fields of endeavor teaches the use of: The logical link control (LLC) layer operates above the MAC layer and provides a logical link between the mobile host and the SGSN **(Heden: paragraph [0028])**; Multiple base stations 32 are connected to a Base Station Controller (BSC) 34 which manages allocation/deallocation of radio resources and controls handovers of mobile stations from one base station to another **(Heden: paragraph [0021])**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the LLC data as taught by Heden in the modified method of Yi and Ahmavaara. One of ordinary skill in the art would be motivated to do so for Provides functionalities like multiplexing of network layer message onto a single virtual logical connection, ciphering, segmentation, and compression **(Heden: paragraph [0027])**.

Regarding claim 85, Yi and Ahmavaara teach a status message is sent back to the source core network support node **(Yi: figures 1, 5, and 6, and col. 6 line 29-44 where UE switching/relocating from one SGSN to another SGSN which are both of a core network, and col. 18 lines 4-6 where UM is supported for relocation)** telling it how many PDUs have been detected **(see Yi col. 5 lines 30-35)**. It is noted

that Yi and Ahmavaara disclose all the subject matter of the claimed invention with the exception of: LLC data. Heden from the same or similar fields of endeavor teaches the use of: The logical link control (LLC) layer operates above the MAC layer and provides a logical link between the mobile host and the SGSN **(Heden: paragraph [0028])**; Multiple base stations 32 are connected to a Base Station Controller (BSC) 34 which manages allocation/deallocation of radio resources and controls handovers of mobile stations from one base station to another **(Heden: paragraph [0021])**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the LLC data as taught by Heden in the modified method of Yi and Ahmavaara One of ordinary skill in the art would be motivated to do so for Provides functionalities like multiplexing of network layer message onto a single virtual logical connection, ciphering, segmentation, and compression **(Heden: paragraph [0027])**.

Regarding claim 86, Yi and Ahmavaara teach the status message provides part of the one or more deleted PDUs **(Yi: col. 5 lines 51-59)**. It is noted that Yi and Ahmavaara disclose all the subject matter of the claimed invention with the exception of: LLC data. Heden from the same or similar fields of endeavor teaches the use of: The logical link control (LLC) layer operates above the MAC layer and provides a logical link between the mobile host and the SGSN **(Heden: paragraph [0028])**; Multiple base stations 32 are connected to a Base Station Controller (BSC) 34 which manages allocation/deallocation of radio resources and controls handovers of mobile stations from one base station to another **(Heden: paragraph [0021])**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the LLC data

as taught by Heden in the modified method of Yi and Ahmavaara. One of ordinary skill in the art would be motivated to do so for Provides functionalities like multiplexing of network layer message onto a single virtual logical connection, ciphering, segmentation, and compression **(Heden: paragraph [0027])**.

Regarding claim 87, Yi and Ahmavaara teach the status message provides the header of the one or more deleted PDUs **(Yi: col. 5 lines 51-59)**. It is noted that Yi and Ahmavaara disclose all the subject matter of the claimed invention with the exception of: LLC data. Heden from the same or similar fields of endeavor teaches the use of: The logical link control (LLC) layer operates above the MAC layer and provides a logical link between the mobile host and the SGSN **(Heden: paragraph [0028])**; Multiple base stations 32 are connected to a Base Station Controller (BSC) 34 which manages allocation/deallocation of radio resources and controls handovers of mobile stations from one base station to another **(Heden: paragraph [0021])**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the LLC data as taught by Heden in the modified method of Yi and Ahmavaara. One of ordinary skill in the art would be motivated to do so for Provides functionalities like multiplexing of network layer message onto a single virtual logical connection, ciphering, segmentation, and compression **(Heden: paragraph [0027])**.

Regarding claim 96, Yi and Ahmavaara teach the packet switched communications in unacknowledged mode between the mobile station and the source core network **(Yi: figures 1, 5, and 6, and col. 6 line 29-44 where UE switching/relocating from one SGSN to another SGSN which are both of a core**

network, and col. 18 lines 4-6 where UM is supported for relocation) support node concerns unacknowledged mode **(Yi: col. 1 lines 45-60 and col. 17 lines 11-51 and col. 27 line to col. 28 line 4 on SRB#1 (UM/DCCH?, which configures the UE with the new U-RNTI and indicated the uplink receive PDCP sequence number for each radio bearer configured to support lossless SRNS relocation).** It is noted that Yi and Ahmavaara disclose all the subject matter of the claimed invention with the exception of: LLC data. Heden from the same or similar fields of endeavor teaches the use of: The logical link control (LLC) layer operates above the MAC layer and provides a logical link between the mobile host and the SGSN **(Heden: paragraph [0028])**; Multiple base stations 32 are connected to a Base Station Controller (BSC) 34 which manages allocation/deallocation of radio resources and controls handovers of mobile stations from one base station to another **(Heden: paragraph [0021])**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the LLC data as taught by Heden in the modified method of Yi and Ahmavaara. One of ordinary skill in the art would be motivated to do so for Provides functionalities like multiplexing of network layer message onto a single virtual logical connection, ciphering, segmentation, and compression **(Heden: paragraph [0027])**.

Regarding claim 136, Yi and Ahmavaara teach the base station change is within or between UTRAN **(Yi: col. 20 lines 26-47)**. It is noted that Yi and Ahmavaara disclose all the subject matter of the claimed invention with the exception of: a GSM-EDGE Radio Access Network (GERAN). Heden from the same or similar fields of endeavor teaches the use of: GERAN **(Heden: paragraph [0030])**; Multiple base stations 32 are

connected to a Base Station Controller (BSC) 34 which manages allocation/deallocation of radio resources and controls handovers of mobile stations from one base station to another **(Heden: paragraph [0021])**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the GERAN **(Heden: paragraph [0030])** as taught by Heden in the relocating SRNS in the modified node of Yi and Ahmavaara. One of ordinary skill in the art would be motivated to do so for enabling different packet data protocols to be employed even when those protocols are not supported by all the SGSNs **(Heden: paragraph [0023]).**

Regarding claim 152, Yi and Ahmavaara teach processing means for deleting buffered data that has not been sent to, or acknowledged by, the mobile station at the point in time when the source base station entity sends the packet switch handover command message to the mobile station **(Yi: col. 4 lines 36-50 and col. 5 lines 30-35).** It is noted that Yi and Ahmavaara disclose all the subject matter of the claimed invention with the exception of: Logical Link Control (LLC) data. Heden from the same or similar fields of endeavor teaches the use of: The logical link control (LLC) layer operates above the MAC layer and provides a logical link between the mobile host and the SGSN **(Heden: paragraph [0028])**; multiple base stations 32 are connected to a Base Station Controller (BSC) 34 which manages allocation/deallocation of radio resources and controls handovers of mobile stations from one base station to another **(Heden: paragraph [0021])**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the LLC data as taught by Heden in the relocating SRNS in the modified base station of Yi and Ahmavaara. One of ordinary skill in the art

would be motivated to do so for Provides functionalities like multiplexing of network layer message onto a single virtual logical connection, ciphering, segmentation, and compression **(Heden: paragraph [0027])**.

Regarding claim 153, Yi and Ahmavaara teach further comprising sending means for sending a status message back to the source core network support node **(Yi: figures 1, 5, and 6, and col. 6 line 29-44 where UE switching/relocating from one SGSN to another SGSN which are both of a core network, and col. 18 lines 4-6 where UM is supported for relocation)** telling it how many PDUs have been deleted **(Yi: col. 4 lines 36-50 and col. 5 lines 30-35).** It is noted that Yi and Ahmavaara disclose all the subject matter of the claimed invention with the exception of: LLC data. Heden from the same or similar fields of endeavor teaches the use of: The logical link control (LLC) layer operates above the MAC layer and provides a logical link between the mobile host and the SGSN **(Heden: paragraph [0028])**; Multiple base stations 32 are connected to a Base Station Controller (BSC) 34 which manages allocation/deallocation of radio resources and controls handovers of mobile stations from one base station to another **(Heden: paragraph [0021])**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the LLC data as taught by Heden in the modified base station of Yi and Ahmavaara. One of ordinary skill in the art would be motivated to do so for Provides functionalities like multiplexing of network layer message onto a single virtual logical connection, ciphering, segmentation, and compression **(Heden: paragraph [0027])**.

Regarding claim 154, Yi and Ahmavaara teach the status message provides part of the one or more deleted PDUs **(Yi: col. 4 lines 36-50 and col. 5 lines 30-35).** It is noted that Yi and Ahmavaara disclose all the subject matter of the claimed invention with the exception of: LLC data. Heden from the same or similar fields of endeavor teaches the use of: The logical link control (LLC) layer operates above the MAC layer and provides a logical link between the mobile host and the SGSN **(Heden: paragraph [0028])**; Multiple base stations 32 are connected to a Base Station Controller (BSC) 34 which manages allocation/deallocation of radio resources and controls handovers of mobile stations from one base station to another **(Heden: paragraph [0021])**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the LLC data as taught by Heden in the modified base station of Yi and Ahmavaara. One of ordinary skill in the art would be motivated to do so for Provides functionalities like multiplexing of network layer message onto a single virtual logical connection, ciphering, segmentation, and compression **(Heden: paragraph [0027])**.

Regarding claim 155, Yi and Ahmavaara teach the status message provides the header of the one or more deleted PDUs **(Yi: col. 4 lines 36-50 and col. 5 lines 30-35).** It is noted that Yi and Ahmavaara disclose all the subject matter of the claimed invention with the exception of: LLC data. Heden from the same or similar fields of endeavor teaches the use of: The logical link control (LLC) layer operates above the MAC layer and provides a logical link between the mobile host and the SGSN **(Heden: paragraph [0028])**; Multiple base stations 32 are connected to a Base Station Controller (BSC) 34 which manages allocation/deallocation of radio resources and

controls handovers of mobile stations from one base station to another **(Heden: paragraph [0021])**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the LLC data as taught by Heden in the relocating SRNS in the modified base station of Yi and Ahmavaara. One of ordinary skill in the art would be motivated to do so for Provides functionalities like multiplexing of network layer message onto a single virtual logical connection, ciphering, segmentation, and compression **(Heden: paragraph [0027])**.

8. Claims 101-102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yi et al. (US Pat. No. 7,356,146 B2), hereinafter as Yi in view of Ahmavaara et al. (US Pub No. 2003/0169725 A1), hereinafter as Ahmavaara as applied to claim 81 above, and further in view of Puuskari (US Pat. No. 6,728,208 B1).

Regarding claim 101, Yi and Ahmavaara teach one or more protocol data units include one or more N-PDU **(Yi: col. 17 lines 11-62).** Yi disclose all the subject matter of the claimed invention with the exception of: SNDCP Unitdata (SN-UNITDATA). Puuskari from the same or similar fields of endeavor teaches the use of: Subnetwork Dependent Convergence Protocol (SNDCP) is a transmission functionality maps network-level characteristics onto the characteristics of the underlying network. SNDCP is specified in GSM 04.65. **(Puuskari: col. 8 lines 62-65)**; The HLR of a roaming MS may be in a different mobile communication network than the serving SGSN **(Puuskari: col. 8 lines 28-30)**; the MS adds the correct type of service and QoS information to the SNDCP data packets. This information may be included in the first data octet (or in the

first two octets, if all three parameters, the service precedence, the delay class, and the reliability class are included). This octet comes after the DCOMP and PCOMP values in SN-Data PDUs and after the N-PDU number in SN-Unitdata PDUs **(Puuskari: col. 14 lines 8-15)**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the SNDCP, SN-UNITDATA as taught by Puuskari in the modified method of Yi and Ahmavaara. One of ordinary skill in the art would be motivated to do so for allowing very flexible and easy way to provide a certain QoS to applications **(Puuskari: col. 3 lines 54-56)**.

Regarding claim 102, Yi and Ahmavaara teach an N-PDU number is included in a header of each protocol data unit **(Yi: col. 17 lines 11-62).** Yi and Ahmavaara disclose all the subject matter of the claimed invention with the exception of: SNDCP Unitdata (SN-UNITDATA). Puuskari from the same or similar fields of endeavor teaches the use of: Subnetwork Dependent Convergence Protocol (SNDCP) is a transmission functionality maps network-level characteristics onto the characteristics of the underlying network. SNDCP is specified in GSM 04.65. **(Puuskari: col. 8 lines 62-65)**; The HLR of a roaming MS may be in a different mobile communication network than the serving SGSN **(Puuskari: col. 8 lines 28-30)**; the MS adds the correct type of service and QoS information to the SNDCP data packets. This information may be included in the first data octet (or in the first two octets, if all three parameters, the service precedence, the delay class, and the reliability class are included). This octet comes after the DCOMP and PCOMP values in SN-Data PDUs and after the N-PDU number in SN-Unitdata PDUs **(Puuskari: col. 14 lines 8-15)**. Thus, it would have been obvious to

one of ordinary skill in the art at the time of the invention to use the SNDCP, SN-UNITDATA as taught by Puuskari in the modified method of Yi and Ahmavaara. One of ordinary skill in the art would be motivated to do so for allowing very flexible and easy way to provide a certain QoS to applications **(Puuskari: col. 3 lines 54-56)**.

9. Claims 109 and 145 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yi et al. (US Pat. No. 7,356,146 B2), hereinafter as Yi in view of Ahmavaara et al. (US Pub No. 2003/0169725 A1), hereinafter as Ahmavaara as applied to claims 81 and 128 above, and further in view of Golitschek et al. (US Pub. No. 2006/0062167 A1), hereinafter as Golitschek.

Regarding claims 109 and 145, Yi and Ahmavaara teach the source core network support node **(Yi: figures 1, 5, and 6, and col. 6 line 29-44 where UE switching/relocating from one SGSN to another SGSN which are both of a core network, and col. 18 lines 4-6 where UM is supported for relocation).** It is noted that Yi and Ahmavaara disclose all the subject matter of the claimed invention with the exception of: (as per claim 109) the source support node buffers a number of N-PDUs corresponding to the delay attribute of the associated packet flow; or (as per claim 145) the buffer size is sufficiently large for a number of N-PDUs corresponding to a delay attribute of the associated packet flow. Golitschek from the same or similar fields of endeavor teaches the use of: calculate the overall PDU code rate, the average number of retransmissions per PDU or the average number of retransmissions per code word. If the code rates of the code words are fixed the measurement unit 610 will preferably

contain a memory for storing the code rates of each code word. As will be described in more detail below the measurement can be averaged over a number of PDUs or over a certain time. For this purpose, the measurement 610 is preferably provided with a filter function. Averaging is preferably applied depending on the round trip delay until retransmissions can be sent and depending on how fast channel conditions change. **(Golitschek: Paragraph [0050]).** Radio Network Controller RNC 210 which is responsible for the Handover decisions that require signaling to the User Equipment UE 120 **(Golitschek: Paragraph [0004]).** Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the number of PDU that can contain in a memory calculated by the round trip delay as taught by Golitschek in the modified method and node of Yi and Ahmavaara. One of ordinary skill in the art would be motivated to do so Provides an adaptive coding scheme with incremental redundancy **(Golitschek: Paragraph [0030]).**

10. Claim 116 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yi et al. (US Pat. No. 7,356,146 B2), hereinafter as Yi in view of Ahmavaara et al. (US Pub No. 2003/0169725 A1), hereinafter as Ahmavaara as applied to claim 81 above, and further in view of Heden (US Pub. No. 2006/0165027 A1) and Golitschek et al. (US Pub. No. 2006/0062167 A1), hereinafter as Golitschek.

Regarding claims 116, Yi and Ahmavaara teach the mobile station buffers a of N-PDUs **(Yi: col. 4 lines 36-50).** Yi and Ahmavaara disclose all the subject matter of the claimed invention with the exception of: number of N-PDUs corresponding to the

maximum delay of RLC/MAC acknowledgement of transmission of LLC PDU. Heden from the same or similar fields of endeavor teaches the use of: the logical link control (LLC) layer operates above the MAC layer and provides a logical link between the mobile host and the SGSN **(Heden: paragraph [0028])**; and variation delay between a minimum and maximum delay time that a message experiences **(Heden: paragraph [0029])**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the LLC data as taught by Heden in the relocating SRNS in the modified method of Yi and Ahmavaara. One of ordinary skill in the art would be motivated to do so for Provides functionalities like multiplexing of network layer message onto a single virtual logical connection, ciphering, segmentation, and compression **(Heden: paragraph [0027])**. Golitschek from the same or similar fields of endeavor teaches the use of: calculate the overall PDU code rate, the average number of retransmissions per PDU or the average number of retransmissions per code word. If the code rates of the code words are fixed the measurement unit 610 will preferably contain a memory for storing the code rates of each code word. As will be described in more detail below the measurement can be averaged over a number of PDUs or over a certain time. For this purpose, the measurement 610 is preferably provided with a filter function. Averaging is preferably applied depending on the round trip delay until retransmissions can be sent and depending on how fast channel conditions change **(Golitschek: Paragraph [0050]).** Radio Network Controller RNC 210 which is responsible for the Handover decisions that require signaling to the User Equipment UE 120 **(Golitschek: Paragraph [0004]).** Thus, it would have been obvious to one of

ordinary skill in the art at the time of the invention to use the number of PDU that can contain in a memory calculated by the round trip delay as taught by Golitschek in the modified method of Yi, Ahmavaara, and Heden. One of ordinary skill in the art would be motivated to do so Provides an adaptive coding scheme with incremental redundancy **(Golitschek: Paragraph [0030]).**

Response to Arguments

11. Applicant's arguments, see Remark, filed 12/5/2011, with respect to the rejection(s) of claim(s) 81, 94, 95, 97-99, 103-106, 128, 129, 137, 139, 140, 146, 147, 150, 151 and 156 under Yi have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Ahmavaara et al. (US Pub No. 2003/0169725 A1), hereinafter as Ahmavaara.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tsao (US Pub NO. 2002/0080819 A1) teach MS relocation where old and new SGSN exchange messages for sequence number figure 8 and paragraph [0037].

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WUTCHUNG CHU whose telephone number is (571)272-4064. The examiner can normally be reached on 9am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joe H. Cheng can be reached on (571) 272-4433. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/WUTCHUNG CHU/
Examiner, Art Unit 2468

/IAN N. MOORE/

Supervisory Patent Examiner, Art Unit 2469